

## SUMMARY OF WITNESSES' STATEMENTS

### Statement of Maurice Campbell

Summary: The large increase in the number of deaths from coronary heart disease since about 1924 must be considered in light of the increase in deaths from all diseases of the heart for two reasons. First, it was only in about 1922-27 that the diagnosis of coronary thrombosis became widely recognized, and that angina pectoris was firmly related to disease of the coronary arteries. Secondly, all of the increase in death from coronary heart disease since 1950 is balanced by a decrease in deaths from other myocardial degeneration, and this balance is so exact that it is almost certainly due to a change in the doctors' method of certification of death.

Campbell has conducted studies in England and Wales which confirm these conclusions. Similar studies have not been conducted in the United States, but it is unlikely that there is any fundamental difference. There is an almost geometrical progression in the rise of reported coronary heart disease since about 1924. Such an increase seldom takes place in biological statistics. The spread of new knowledge about the diagnosis of coronary thrombosis

through the medical community does resemble this geometric progression. This is the most likely explanation of the astronomical increase in reported coronary heart disease.

From 1940 to 1949, the increase in deaths from coronary heart disease was due to changes in certification since it was accompanied by a fall in deaths from myocardial diseases. Ryle and Russell showed that 4/5 of the registered increase was due to a change of certification. In the next decade, the registered increase in deaths from arteriosclerotic, including coronary, heart disease was exactly balanced by the registered decrease in deaths from other myocardial degeneration. The agreement is too close to be due to anything but a change in methods of certification, and it continued in 1960-61.

The Registrar-General wrote "In spite of the rising death rate from coronary heart disease, the total number of deaths from heart disease has not increased if allowance is made for the increase in the number of elderly persons in whom most of these diseases occur." We know, therefore, that since 1940 most of the recorded increase in deaths from coronary heart disease is quite artificial and due to a change in the doctors' knowledge and certification.

Probably this was true in 1924-1939, but then the increase of death from all forms of heart disease was large enough to mask the certainty of this.

The increase in the deaths from all diseases of the heart is mainly due to the older age of the population. The lives that were saved during the decline in death rates were, in the main, young people who had previously died from various infectious diseases. To say that coronary heart disease has been caused by smoking because both have increased during the same period is wrong. Smoking might equally well be replaced by motor cars or divorce.

Evaluation: This statement presents a good argument for the fact that any increase in heart disease is the result of people living longer, increase in knowledge, and changes in classification, not the result of any change in habits. Campbell presents figures to back up his conclusions and cites authorities. However, the statement is difficult to follow because Campbell plunges right in to explanations of his studies without telling the reader what he is trying to prove.

Ad Hoc Comments:

Draft sent out December 13, 1967.

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DONALD HOEL: January 3, 1968. (These comments were directed towards the draft form but are applicable to the final form since Campbell made only minor changes.)

1. On page 1 of the paper, the introductory paragraph is not at all clear. Since this paper is to be read and hopefully understood by laymen, some definition of the various terminology should be used. For example, distinctions are made between coronary heart disease, coronary thrombosis, angina pectoris and other myocardial degenerations. The second paragraph on page 1 is not at all clear and I have evidently missed his point completely.

2. The third paragraph on page 1 might benefit from an explanation of the related listings or certifications in regard to coronary heart disease and myocardial degenerations.

3. Page 2 contains a definition of "death rate" but this definition is not clear or understandable. He follows the definition with a statement that "the death rate is, therefore, independent of the size of the population but dependent on its age distribution." I did not follow this explanation and it possibly could be made more understandable.

4. On page 2 of the paper he indicates that he has not

studied the similar records in the United States of America. This will unquestionably detract from the weight of the statements that he makes thereafter.

5. On page 2 he uses the death rate of 1,500 as a "base line" of 100% for all diseases of the heart and a death rate of 26 as a base line of 100% for "coronary heart disease". Again, this is not very clear to a person reading the report as to just what he intends.

6. On page 3 in the first paragraph he indicates that the death rates for all cardiovascular causes in the years 1961-1965 were "86.4, 87.7, 89.7, 80.9 and 84.4." He follows this listing of percentages with this sentence: "There has, therefore, been a slight fall of just over 2%." I find this difficult to understand and possibly others might also.

7. On page 3 in the second paragraph he indicates that the death rates from all diseases of the circulatory system and from vascular lesions of the central nervous system behaved in the same general way but he then indicates that there was an increase, but less. Less than what? In the preceding paragraph he had indicated that there had been a fall of just over 2%. Again, this is not written in an understandable manner.

8. On page 4 he talks about the "astronomical increase" in the reported figures. He indicates that the increase in the geometrical progression is not common in the medical or biological statistics and then gives two examples, i.e., spread of infectious disease where there is no immunity and a growth of a small number of animals with a rapid rate of reproduction and unlimited food supply. This is really not too well stated.

9. In paragraph 2 on page 4, he indicates that the most likely explanation of the astronomical increase is with the spread of new knowledge (the diagnosis of coronary thrombosis). But then he mentions that there have been some changes in the Registrar General's method of classification. He does not state what the changes were but he does indicate that they do not seem to be important. Possibly this could be amplified to explain the changes and give reasons why they do not seem to be important.

10. The third paragraph on page 4 makes reference to other authors' papers and a 1927 address by Sir Humphrey Ralleston. I am afraid that I have missed the point completely on this paragraph and possibly other interested readers might similarly be confused.

11. At page 5 he indicates that a study was made by Ryle

and Russell in 1949 but I feel that we might benefit from an additional explanation of the results of said work.

12. In the first full paragraph on page 5, the word arteriosclerotic is misspelled.

13. In the same paragraph, a reader might benefit from an explanation of the allied classifications of death - he mentions group 420.

14. Page 6 in the first full paragraph states that the recorded increase in deaths from coronary heart disease since 1940 is artificial and is due to a change in the doctor's knowledge and certification. He then states that "probably" this was true in 1924 to 1939 but that the increase in deaths from all forms of heart disease was large enough to mask the certainty of this. Again, I do not follow his reasoning. He then states that "I hope to show" that this was due to the increasing age of the population caused by the young lives that had been saved by better control of infectious diseases and tuberculosis. However, his explanation on pages 6, 7 and 8 is lacking in supporting his hopes.

15. In the first paragraph on page 7 he states that "from various data I concluded that the average age of those whose lives had been saved was about 16 to 22 years". He does not mention

the data involved nor the manner with which he used the data to reach his conclusions.

16. In the second paragraph on page 7 he states that "I assumed their average age was 20 ---". Again, his assumption may or may not be reasonable as he claims, but he does not give very much information to reach a full understanding of what he intends.

17. The doctor has references attached but no indication as to the location of the references within the paper itself.

What Needs To Be Done: This statement needs to be re-written with emphasis placed on clarifying the points that Campbell is making, as outlined by Donald Hoel.